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| 09/915,091 | 07/25/2001 | Timothy M. Schmidl | TI-31670 | 5570 |

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| EXAMINER | |
|---|---|
| DANIEL JR, WILLIE J | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2617 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/915,091 | SCHMIDL ET AL. | |
| | Examiner | Art Unit | |
| | WILLIE J. DANIEL JR | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3 and 5-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. This action is in response to applicant's amendment filed on 16 September 2008. **Claims 1-3 and 5-21** are now pending in the present application and **claims 4 and 22-32** are canceled. This office action is made **Final**.

### *Claim Rejections - 35 USC § 102*

2. The text of those sections of Title 35, U.S. Code 102(b) not included in this action can be found in a prior Office action.

**Claims 1, 3, 5, 8-10, 12-16, and 18-20** are rejected under 35 U.S.C. 102(b) as being anticipated by **Van De Berg** (hereinafter Berg) **(US 5,907,812)**.

Regarding **claim 1**, Berg discloses a method of selecting a plurality of frequency bands for use in a desired wireless communication from among a plurality of frequency bands available to be used for the desired wireless communication (see abstract; col. 2, line 65 - col. 3, line 6; col. 3, lines 38-48; Figs. 2 & 4), where the radio communications system has carrier frequency bands, comprising:

passively monitoring (e.g., scanning) the plurality of frequency bands to determine interference information for each of the frequency bands (see abstract; col. 2, line 65 - col. 3, line 17; col. 3, lines 38-48; col. 4, lines 27-39; col. 7, lines 48-65; col. 9, lines 4-17; Figs. 2, 4, & 7-9);

summing the interference information of said each of the frequency bands to produce a signal quality indication (see col. 9, lines 4-44; Fig. 7 "ref. 2-6"), where the results of the scanning are combined to determine an interference-free frequency band of the carrier

frequency bands; and

selecting the plurality of frequency bands for the desired wireless communication in response to the signal quality indication (see col. 3, lines -6, 11-17; col. 5, lines 8-12; col. 9, lines 9-30; Figs. 2, 4, & 7-9).

Regarding **claim 3**, Berg discloses the method of claim 1, wherein said passive monitoring (e.g., scanning) step includes monitoring interference associated with the plurality of frequency bands (see abstract; col. 3, lines 1-6, 11-17; col. 9, lines 6-8,57-62; col. 10, line 46-50; Figs. 7 "ref. 3", 8 "ref. 13", & 9 "ref. 24").

Regarding **claim 5**, Berg discloses the method of claim 1, wherein said plurality of frequency bands are narrow frequency bands (e.g., $C_{2\text{-}6}$) comprising a wide frequency band (e.g., $C^1$) (see col. 7, line 48 - col. 8, line 6; col. 9, lines 4-30; Figs. 2 & 7 "ref. 2-6").

Regarding **claim 8**, Berg discloses the method of claim 1, wherein said passive monitoring (e.g., scanning) step includes each of two wireless communication stations (e.g., 30, 34, 40) passively monitoring at least some of said plurality of frequency bands (see col. 2, line 65 - col. 3, line 7; col. 5, line 21 - col. 6, line 2; col. 14, lines 1-8; Figs. 10-13).

Regarding **claim 9**, Berg discloses the method of claim 8, including one of said wireless communication stations (e.g., 30, 34, 40) communicating with the other of said wireless communication stations (e.g., 30, 34, 40) regarding results of said passive monitoring (e.g., scanning) (see col. 5, line 21 - col. 6, line 2; col. 14, lines 1-8; Figs. 10-13).

Regarding **claim 10**, Berg discloses the method of claim 1, wherein said passive monitoring (e.g., scanning) step includes passively monitoring a group (e.g., plurality) of the available frequency bands, and tuning a filter to each of said group of available frequency

bands (see abstract; col. 9, lines 3-21; col. 12, line 40 - col. 13, line 5; Figs. 2, 4, & 7-9), where the tuning a filter would be inherent in order to process each of the available bands a filter must be tuned to each available frequency band.

Regarding **claim 12**, Berg discloses the method of claim 1, wherein said selecting step includes the wireless communication station (e.g., 30, 34, 40) selecting the plurality of frequency bands for the desired wireless communication and informing another wireless communication station (e.g., 30, 34, 40) of the selected frequency bands (see col. 12, line 40 - col. 13, line 5; col. 14, lines 1-8).

Regarding **claim 13**, Berg discloses a wireless communication station (e.g., 30, 34, 40) (see Figs. 11-13), comprising:

an antenna (e.g., 31, 35) for use in wireless communications (see col. 12, lines 3-7; col. 13, lines 42-48, 57-62; Figs. 11-13);

a band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) coupled to said antenna (e.g., 31, 35) for selecting a plurality of frequency bands to be used for the desired wireless communication (see abstract; col. 2, line 65 - col. 3, line 6; col. 3, lines 38-48; col. 5, line 52 - col. 6, line 2; col. 6, lines 2-40; Figs. 2 & 4);

said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) operable for passively monitoring each frequency band of the plurality of frequency bands to determine respective interference information for said each frequency band (see abstract; col. 2, line 65 - col. 3, line 6; col. 3, lines 38-48; col. 4,

lines 27-39; col. 5, line 52 - col. 6, line 2; col. 6, lines 20-40; col. 7, lines 48-65; col. 9, lines 4-17; col. 12, lines 41-51; Figs. 2, 4, & 7-9);

said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) operable for summing the respective interference information of said each of the frequency band to produce a signal quality indication (see col. 9, lines 4-44; Fig. 7 "ref. 2-6"), where the results of the scanning are combined to determine an interference-free frequency band of the carrier frequency bands; and

said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) further operable for selecting the plurality of frequency bands for the desired wireless communication in response to the signal quality indication (see abstract; col. 3, lines 1-6, 11-17; col. 5, lines 8-12; col. 5, line 52 - col. 6, line 2; col. 9, lines 9-30; col. 12, lines 41-60; Figs. 2, 4, 7-9, & 11-13), where the bandwidth (e.g., 1 MHz & 5 MHz) of the at least one available frequency band is selected, if deemed acceptable, to form, by itself or in combination with other acceptable available frequency bands, the at least one frequency band for the desired communication (see col. 7, lines 19-32; col. 8, lines 50-56; col. 9, lines 1-30; Fig. 7).

Regarding **claim 14**, Berg discloses the wireless communication station of claim 13, wherein said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) includes an interference monitor (e.g., scanning means 52) for monitoring interference associated with said each frequency band (see col. 6, lines 30-40; col. 12, lines 4-60; Figs. 11-13).

Regarding **claim 15**, Berg discloses the wireless communication station of claim 14, wherein said interference monitor (e.g., scanning means 52) includes an RSSI measurement apparatus (see col. 6, lines 33-37), where the system has a scanning means (52) in which a RSSI measurement apparatus would be inherent to provide signal strength measurements as evidenced by the fact that one of ordinary skill in the art would clearly recognize.

Regarding **claim 16**, Berg discloses the wireless communication station of claim 13, including a wireless communications interface (e.g., transmitter & modulator 44 and receiver & demodulator 45) coupled between said antenna (e.g., 31, 35) and said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51), said wireless communications interface (e.g., transmitter & modulator 44 and receiver & demodulator 45) cooperable with said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) and said antenna (e.g., 31, 35) for communicating to another wireless communication station (e.g., 30, 34, 40) information indicative of a result of said passive monitoring (e.g., scanning) operation (see col. 5, line 21 - col. 6, line 2; col. 6, lines 20-39; col. 12, line 41 - col. 13, line 5; col. 14, lines 1-8; Figs. 11-13).

Regarding **claim 18**, Berg discloses the wireless communication station of claim 13, wherein said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) includes a filter coupled to said antenna (e.g., 31, 35) for tuning to said each frequency band, said band selection controller including a passive (e.g., scanning) monitor coupled to said filter for passively monitoring said each frequency band (see abstract; col. 9, lines 3-21; col. 12, line 40 - col. 13, line 5; Figs. 2, 4, & 7-9), where the

tuning a filter would be inherent in order to process each of the available bands a filter must be tuned to each available frequency band.

Regarding **claim 19**, Berg discloses the wireless communication station of claim 13, including a wireless communications interface (e.g., transmitter & modulator 44 and receiver & demodulator 45) coupled to said antenna (e.g., 31, 35) for interfacing between, said antennae and a communications application (e.g., cordless application), said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) including a portion (e.g., scanning means 52) of said wireless communications interface (see col. 12, lines 41-60; Figs. 11-13).

Regarding **claim 20**, Berg discloses the wireless communication station of claim 19, wherein said portion (e.g., scanning means 52) of said wireless communications interface includes a filter for tuning to said each frequency band (i.e., in order to process the at least one frequency band a filter must be tuned to the frequency band) and an RSSI measurement apparatus coupled to said filter for providing an RSSI measurement with respect to said each frequency band (see col. 12, line 40 - col. 13, line 5; col. 6, lines 33-37).

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code 103(a) not included in this action can be found in a prior Office action.

**Claims 2, 6-7, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Van De Berg** (hereinafter Berg) (**US 5,907,812**) in view of Admitted Prior Art (**MPEP 2144.03**).

Regarding **claim 2**, Berg discloses every limitation claimed as applied above in claim

1. Berg fails to disclose the feature wherein said passive monitoring step includes monitoring communication quality associated with the plurality of frequency bands. However, the examiner takes official notice of the fact that it was notoriously well known in the art to the feature wherein said passive monitoring step includes monitoring communication quality associated with the plurality of frequency bands.

As a note, one of ordinary skill in the art would clearly recognize the common knowledge of having the feature wherein said passive monitoring step includes monitoring communication quality associated with the plurality of frequency bands in order to determine whether or not said frequency band is acceptable for a desired communication.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Berg by specifically having the feature wherein said passive monitoring step includes monitoring communication quality associated with the plurality of frequency bands, for the purpose of determining if said at least one available frequency band is acceptable for a desired communication as known in the prior art. Such feature provides an additional parameter to be used for selecting an available frequency band in Berg's invention in accordance with the desired communications.

Regarding **claim 6**, Berg discloses every limitation claimed as applied above in claim 5. Berg further discloses that his invention can be applied to several different technologies operating on the same geographical area and using the same frequency band (see col. 1, lines 57-63). Berg fails to disclose the feature wherein the wide frequency band is an IEEE 802.11b band. However, the examiner takes official notice of the fact that it was notoriously

well known in the art to the feature wherein the wide frequency band is an IEEE 802.11b band.

As a note, one of ordinary skill in the art would clearly recognize the common knowledge of having the feature wherein the wide frequency band is an IEEE 802.11b band are well known standard in which wireless communication stations operate and communicate within the frequency band (i.e., 2.4 GHZ).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Berg by specifically having the feature wherein the wide frequency band is an IEEE 802.11b band, for the purpose of avoiding interference and management of the frequency band can be efficiently accomplished between the wireless communication stations.

Regarding **claim 7**, Berg discloses every limitation claimed as applied above in claim 1. Berg further discloses that his invention can be applied to several different technologies operating on the same geographical area and using the same frequency band (see col. 1, lines 57-63). Berg fails to disclose the feature wherein at least one frequency band of the plurality of frequency bands is a Bluetooth 2.0 band. However, the examiner takes official notice of the fact that it was notoriously well known in the art to the feature wherein at least one frequency band of the plurality of frequency bands is a Bluetooth 2.0 band.

As a note, one of ordinary skill in the art would clearly recognize the common knowledge of having the feature wherein at least one frequency band of the plurality of frequency bands is a Bluetooth 2.0 band are well known standard in which wireless communication stations operate and communicate within the frequency band (i.e., 2.4 GHZ).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Berg by specifically having the feature wherein at least one frequency band of the plurality of frequency bands is a Bluetooth 2.0 band, for the purpose of avoiding interference and management of the frequency band can be efficiently accomplished between the wireless communication stations.

Regarding **claim 21**, the claims according to claim 13 is rejected for the same reasons as set forth above in the rejection of claims 6 and 7.

**Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Van De Berg** (hereinafter Berg) (**US 5,907,812**) in view of **West** (**US 5,574,979**).

Regarding **claim 11**, Berg discloses every limitation claimed as applied above in claim 1. Berg does not specifically disclose having the feature(s) wherein the plurality of frequency bands includes a frequency band associated with microwave oven interference. However, the examiner maintains that the feature(s) wherein the plurality of frequency bands includes a frequency band associated with microwave oven interference was well known in the art, as taught by West.

In the same field of endeavor, West discloses the feature(s) wherein the plurality of frequency bands includes a frequency band associated with microwave oven interference (4501) (see col. 3, line 64 - col. 4, line 23; col. 5, line 62 - col. 6, line 6; col. 61, lines 15-42; Fig. 45), where the system detects interference from associated with a microwave oven.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berg and West to have the feature(s) wherein the plurality of frequency bands includes a frequency band associated with microwave oven interference, in order to provide a radio frequency communication system that detects interference and determines whether such interference is periodic, as taught by West (see col. 4, lines 11-13).

**Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Van De Berg** (hereinafter Berg) (**US 5,907,812**) in view of **Souissi et al.** (hereinafter Souissi) (**US 6,327,300 B1**).

Regarding **claim 17**, Berg discloses wireless communication station of claim 13, including a wireless communications interface (e.g., transmitter & modulator 44 and receiver & demodulator 45) coupled between said antenna (e.g., 31, 35) and said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51), said wireless communications interface cooperable with said antenna for receiving and providing to said band selection controller a passive monitoring (e.g., scanning) result which is associated with the said each frequency band and which has been obtained and transmitted by another wireless communication station (e.g., 30, 34, 40) (see col. 5, line 21 - col. 6, line 2; col. 6, lines 20-39; col. 12, line 41 - col. 13, line 5; col. 14, lines 1-8; Figs. 11-13). Berg does not specifically disclose having the feature(s) said band selection controller operable for determining whether said each frequency band is acceptable for the desired wireless communication in response to said result received from said another wireless communication

station. However, the examiner maintains that the feature(s) said band selection controller operable for determining whether said each frequency band is acceptable for the desired wireless communication in response to said result received from said another wireless communication station was well known in the art, as taught by Souissi.

In the same field of endeavor, Souissi discloses the feature(s) said band selection controller (e.g., processor or controller 12) operable for determining whether said each frequency band is acceptable for the desired wireless communication in response to said result received from said another wireless communication station (e.g., second transceiver station) (see col. 2, lines 22-35,60-65; col. 3, line 20 - col. 4, line 3; Figs. 1-2), where transceiver (10) includes processor (12) that receives a communication request from a second transceiver device on a dynamically selected portion of the spectrum selected.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berg and Souissi to have the feature(s) said band selection controller operable for determining whether said each frequency band is acceptable for the desired wireless communication in response to said result received from said another wireless communication station, in order to significantly enhance the dynamic selection of the frequency band to be used in the desired communication by, for example, accounting for unknown interferers to one of the transceiver devices during the selection process, as taught by Souissi (see col. 3, lines 37-44).

***Response to Arguments***

4. Applicant's arguments with respect to claims 13-21 have been considered but are moot in view of the new ground(s) of rejection necessitated by the amended language and/or new limitations.

In response to applicant's arguments, the Examiner respectfully disagrees as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations and comments in this section).

5. Applicant's arguments filed 16 September 2008 have been fully considered but they are not persuasive.

The Examiner respectfully disagrees with applicant's arguments as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations).

6. Regarding applicant's argument of claim 1 on pg. 6, 4th full par., "…does not discloses summing the interference information of said each frequency to produce a signal quality indication…", the Examiner respectfully disagrees. Applicant has failed to interpret and appreciate the teachings of well-known prior art Berg that clearly discloses the claimed feature(s) as would be clearly recognized by one of ordinary skill in the art. In particular, Berg discloses the language as related to the claimed feature(s) summing the interference information of said each of the frequency bands to produce a signal quality indication (see col. 9, lines 4-44; Fig. 7 "ref. 2-6"), where the results of the scanning are combined to determine an interference-free frequency band of the carrier frequency bands. Therefore, as addressed above, the applied reference more than adequately meets the claim limitations.

7. Regarding claims 2, 6-7, and 21, the applicant did not traverse the Examiner's assertion of official notice stated in the action(s) mailed 16 June 2008, 28 November 2005, and 03 November 2004. As a result, the Examiner's statement is hereby taken to be well-known admitted prior art or common knowledge because the applicant failed to traverse the Examiner's assertion of official notice. Therefore, the applicant must agree with the Examiner's assertion of official notice.

8. Regarding applicant's argument(s)/comment(s) of claims 2-3 and 5-21, the claims are addressed for the same reasons as set forth above and as applied above in each claim rejection.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIE J. DANIEL JR whose telephone number is (571)272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,Jr/

WJD,Jr
27 January 2009

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617